

Dispersing to Win in 2025

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## **Dispersing to Win in 2025**

Future War Paper

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## **Executive Summary**

**Thesis:** Dispersed, relatively light, combined arms teams will be a realistic, and in some cases a necessary, option in rapid reaction and forcible entry operations due to projected advances in precision firepower, tactical mobility and force protection.

**Summary:** Since WW I, conventional ground tactics have been based on large combined arms teams centered around platforms such as the tank, the infantry-fighting vehicle, capital ships and airplanes. These expensive platforms, especially when massed, will prove too inflexible and vulnerable in the future. The relationship between firepower, mobility and force protection that was changed so fundamentally by the tank over eighty years ago will undergo another great transformation in the next 20 years. Proliferating missile and sensor technology, asymmetric threats such as weapons of mass destruction and terrorism, and the blurred demarcation between conventional and unconventional war call for a rebalanced combined arms team. Such teams—based not on the armored division or air wing but rather on all-arms battalions—will serve as the utility infielders of future war through their unprecedented lethality, mobility, and flexibility. In particular, forcible entry forces facing a determined anti-access campaign can no longer mass strategic lift on easily targeted ports, beaches and airfields.

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*The student will observe that changes in tactics have not only taken place after changes in weapons, which reasonably is the case, but that the interval between such changes has been unduly long.*

A. T. Mahan<sup>1</sup>

**Introduction.** Since WW I, conventional ground tactics have been based on large combined arms teams centered around platforms such as the tank, the infantry-fighting vehicle, capital ships and airplanes. These expensive platforms, especially when massed, will prove too inflexible and vulnerable in the future. The relationship between firepower, mobility and force protection that was changed so fundamentally by the tank over eighty years ago will undergo another great transformation in the next 25 years. Proliferating missile and sensor technology, asymmetric threats such as weapons of mass destruction and terrorism, and the blurred line between conventional and unconventional war call for rebalanced combined arms team that can employ dispersed tactics. Such teams—based not on the armored division but rather infantry battalions—will serve as the utility infielders of future war through their unprecedented lethality, mobility, and flexibility. In particular, forcible entry forces facing a determined anti-access campaign can no longer mass strategic lift on easily targeted ports, beaches and airfields. Dispersed, relatively light, combined arms teams will be a realistic, and in some cases a necessary, option in rapid reaction and forcible entry operations due to projected advances in precision firepower, tactical mobility and force protection.

### **Why Dispersed Tactics?**

Combat units inappropriately organized, trained and equipped for the next war forfeit great combat power. The following trends argue for a force reorganization based in part on a dispersed close battle that ties in stand-off, precision weapons.

**Anti-Access Defense.** For our opponents, the lasting lesson of Operation DESERT STORM is to never give the U.S. access to ports and airfields required to project forces overseas.

We will be hard pressed to defeat those that fight us at the point of entry—the beach, port, airfield and drop zone. The improved range, precision and lethality of missiles will give our opponents the ability to mass fires on forcible entry forces as they land, their moment of greatest weakness. The enemy no longer has to race mobile reserves, exposed to our continuous air attack, to defeat the landing before combat power can be massed ashore. Rather, an integrated defense will use UAVs and satellite sensors to direct a stand-off attack of precision anti-ship, cruise and ballistic missiles in conjunction with sea and land mines, advanced diesel submarines, small boats, WMD and dispersed ground forces. The Defense Science Board predicted that by 2010 regional powers could mount such a defense against a concentrated, frontal attack to "kick in the door."<sup>2</sup> Dispersed forces, however, could infiltrate, turn or envelope such a defense.

Conventional vs. Unconventional Combat. Future opponents will more likely than not be "streetfighters." They will not present the lucrative, conventional targets that are so suited for precision aviation and missile attack. Since the Gulf War, few will go toe-to-toe with us. They will take the battle to us with small, dispersed forces using unconventional warfare. In a replay of a nimble David versus an unwieldy Goliath, they will attack our expensive platforms where they are most vulnerable—in the street, in crowded coastal waters, within a population or from difficult terrain. Swarming, small boats can take out capital ships, not just from eyeball-to-eyeball range as with the USS Cole, but from dozens of miles out with anti-ship missiles. These attacks exploit the increasing portability and miniaturization of anti-air, anti-tank and anti-ship weapons while staying below the resolution of our sensors to detect and attack them on a battlefield cluttered with civilians, buildings, or low priority conventional forces.<sup>3</sup> Our large, expensive platforms are increasingly ill-suited for encounters with dispersed, camouflaged and well-armed opponents. Sensors and airborne weapons that were so easily fooled in Kosovo,

Vietnam, Somalia and Korea cannot make the critical discriminations necessary to attack an opponent gone to ground in city streets, forests or the jungle. Dispersed forces enable us to better fight the irregular battle but also a conventional opponent who employs WMD.

Technology. As the Iraqis discovered in the Iran-Iraq War, technology can be negated by ideologically motivated masses willing to die for their cause while exploiting an opponent's aversion to casualties. As technology proliferates, a more sophisticated opponent can combine fervent masses—military and civilian—with high technology weapons. In a foreshadowing of things to come, the Somalis, the most primitive of opponents, fielded an effective, integrated air defense in 1994 based on cell phones and RPGs. Our current force structure is particularly vulnerable to such technological counter-measures. It is a rough graft of stand-off, "precision" attacks to large scale conventional forces. These loosely integrated components lack the complex threat a true combined arms force presents and are thus vulnerable to simple counter-measures. A future opponent can employ decoys, improved tactics, close terrain, obscurants, WMD, dispersed anti-air defenses, and radio frequency weapons to blind and cripple a technologically based "precision" attack and block logistically intensive conventional forces.

Moreover, technology cannot be assumed to be the combat multiplier of the past. In many ways, it is proving to be a great equalizer. The proliferation of night vision devices, fiber optics, computing power and cell phones is just one example of how we are already losing our lead in nightfighting and command and control. Iraq's ability to employ mobile SCUDs as well as hide its WMD has only improved since its DESERT STORM success. Future enemies will use more sophisticated maneuver tactics as they are better able to observe, orient, decide and act. The very technology that allows our opponent to combine and coordinate arms at levels below our resolution for intelligence and long-range destruction will force us to further disperse.

Blindly dropping weapons, even precision weapons, from ten thousand feet is like "reconning by fire" with a sledgehammer—it is inefficient, easily avoided and might inflict casualties on the very people whose hearts and minds we are trying to win or protect. Smaller, combined arms teams can maximize the discrete application of technology and more quickly adapt to enemy countermeasures, tactics and unanticipated technological vulnerabilities.

Stealth over Armor for Survivability. Dropping below the enemy's ability to detect or engage your attack has just the same premium on the ground as in the air. Dispersed forces can use greater stealth to infiltrate an enemy's defenses than large-scale conventional ones. Stealth is critical in the opening stages of a forcible entry operation before the enemy's defenses, increasingly resistant to air attack, are degraded. Improved enemy sensors and precision fires must be infiltrated and destroyed before conventional forces can use the beaches, ports and airfields they require. Tactical ground and aviation survivability is dependent on negating the enemy's ability to detect and engage them as they move rather than increasingly heavy armor.

Air Superiority. The sixty-year assumption of air superiority for U.S. forcible entry operations may be at an end. Unmanned cruise and ballistic missiles will be used as the poor man's fighter plane at much less cost. Target and acquisition technology make these weapons very effective against large troop or logistics concentrations. Projected air defense assets have huge footprints, limited coverage, can be over-saturated, and are slow to get in theater. Also, increasingly sophisticated enemy air defense capabilities and tactics will limit our unimpeded use of the air. Not only will aviation be forced to altitudes too high to discriminate targets, but non-stealth tactical aircraft will be put at risk. Next generation anti-air defenses will decentralize and employ communications and sensors resistant to our stand-off attack. These assets may be saved to support a counterattack against a concentrated amphibious or air assault.



Force Closure. The holy grail of forcible entry since the 1940s is an effective force light enough to rapidly deploy on limited strategic lift. Light forces that exploit limited, rapid-reaction lift without great logistics demands or infra-structure are a solution. Their effectiveness is based on the feasibility of dispersed tactics.

By 2025, there is an imperative for dispersed tactics due to improved anti-access defenses, unconventional threats, effective counters to stand-off attack, the importance of stealth, our loss of assumed air superiority, and our inability to rapidly close with heavy forces.

### **The Relationship between Firepower and Maneuver**

As desirable as dispersed tactics may be, are they feasible? And, if so, when can they be used? The answer is found in the relationship between firepower and maneuver.<sup>4</sup>

Firepower. The enemy's firepower requires us to disperse while our firepower permits us to disperse. The increasing range, lethality and accuracy of firepower resulted in increased battlefield dispersion over time. A 100,000 man corps occupied two square miles in antiquity, 27 square miles in the Civil War, and 1,727 square miles in World War II.<sup>5</sup> This trend will continue as WMD, precision fires, improved sensors, better munitions and increased weapons' ranges widen the battlefield.

Maneuver. Enemy ability to better maneuver to a positional advantage limits our dispersion while our relative maneuverability increases the possibilities of dispersion. All things being equal, an opponent with a relative advantage in mobility can decisively exploit an attack before we can concentrate to meet it.<sup>6</sup> Unless fixed by our fires, he can defeat us in detail. In general, increased relative mobility permits greater dispersion, mutual support, potential concentration and tactical flexibility. A foot-mobile force moving at 2 ½ mph will be much slower to react than a motorized one moving at 30 mph and a heliborne one moving at 120 knots.

Increased mobility relative to the enemy increases the survivability and decisiveness of these dispersed forces. Of course, an opponent may not be able to translate greater relative mobility into superior maneuver due to poor doctrine, tactics, situational awareness, training or decision-making. Still, it would be foolish to assume that future opponents will not exploit a mobility advantage—especially considering the proliferation of observation and orientation technology.

Improved Firepower. Advances in long-range, precision-guided weapons will affect the relationship between firepower and maneuver. How much so, is a matter of debate. For advocates of stand-off war, precision firepower is "undoubtedly, one of the most important developments in the history of twentieth century warfare"<sup>7</sup> and a war winner in its own right. This attrition-based philosophy predicts a decisive advantage for ever-increasingly effective missiles and aircraft in the absence of maneuver. Our air force believes that an enemy attack on an allied country could be halted defeated by long-range fires alone. Enemy armored divisions would be easy prey for stand-off fires that could, under ideal circumstances, destroy up to ten armored vehicles each.<sup>8</sup> The allure of precision engagement<sup>9</sup> is further heightened by the difficulties in projecting sizeable maneuver forces quickly enough to counter seizure of such key objectives as an allies' capital (e.g., Seoul) or required ports and airfields (e.g., Saudi Arabia).

Alternatively, maneuverists see the pitfalls associated with a one-dimensional concept that, without the pressure of maneuver forces, is subject to easy countermeasures by an adaptive opponent. Long-range precision fires are best used against a predictable enemy moving in mass formations, in open terrain and over predicted routes. New studies show that the effectiveness of long-range precision fires drops by two orders of magnitude when enemy armor operates in intermittent forests typical of Poland or Virginia. Precision fires are further degraded by a dispersed enemy, decoys, jamming, poor weather, cities, burning vehicles, air defense (even

those as primitive as Milosevich's), "dash tactics" that exploit maneuver during long time of flight of stand-off weapons, "belt-buckle tactics in which enemy rapidly maneuvers to intermingle with allied population and forces. In short, an adaptive opponent on a cluttered battlefield can most likely retain the initiative and counter a stand-off attack.

Expensive precision weapons depend on a target set that, as in Vietnam, Somalia and Kosovo, the enemy may not provide. Above all, a stand-off strategy forfeits the synergistic use of maneuver and fires. In the past, flexible maneuver has been the key in placing U.S. forces in positions of decisive advantage. Maneuver forces an enemy to move, concentrate, resupply or otherwise expose himself to our firepower. All previous aerial interdiction campaigns failed without a supporting ground effort to force enemy exposure. Combined arms teams can most effectively combine the complementary strengths of direct fire, organic indirect, and long-range weapons to attack enemy vulnerabilities. In many cases, precision weapons will not be effective alone. Precision weapons may change the possibilities of maneuver but will not change the complementary relationship between firepower and maneuver.

### **The Single Battle**

Dispersed units are dependent on closely integrated fire support to enable decisive maneuver and ensure survivability. Relatively light expeditionary forces, building combat power from zero, are even more reliant on fires to fix an enemy with superior ground mobility. Increased strategic or even operational firepower will only enable dispersion if tightly tied into the ground fight. The opportunities provided by dispersion are dependent on flexible, continuous and responsive fire support. These fires provide all around security, cover gaps between units, allow widely separated units to mass effects, prevent the enemy from concentrating and permit ground units to shape the enemy in depth. Any breakdown in the relationship between maneuver

units and their supporting fires is potentially disastrous. Dispersed units can be decisive only if they are fought as part of a single, integrated battle with tactical and operational fires.

Past experience illustrates the possibilities of such integration. During the Korean War, dispersed and greatly outnumbered Marine battalions employed airpower to destroy Chinese infantry units. Chinese divisions essentially impaled themselves on the firepower available to widely-separated and, in many cases, cut-off units. The Chinese dilemma was that they could not continue their infiltration, all but invisible to the air, without fighting these units. Once they concentrated for the attack, however, they became vulnerable to devastating air attack. Marine units delivered crippling blows to the Chinese despite losing their aviation at night, a near-disastrous tactical position and no doctrine for dispersed tactics. Although not involving great dispersion, the surprisingly effective Egyptian tactics for the October 1973 War also relied on a superior, more mobile and armor-based enemy counterattacking into a combined arms defense based on precision missiles. During DESERT STORM, a U.S. special forces reconnaissance team was discovered and attacked by overwhelming numbers but killed 150 Iraqis and lost no one.<sup>10</sup> Finally, BLT 2/8 in Operation PROVIDE COMFORT successfully confronted an Iraqi division and compensated for relatively poor mobility by using carrier air in support.

Today, and in the future, even greater firepower is *potentially* available to increase possibilities for effective dispersion. To tap this potential, however, we will have to counter the divorce of long-range fires from maneuver. The separate air campaign and independent deep battle employed in the Gulf War has unhinged the combined arms fight. This concept attacks "high payoff targets" independent of the ground main effort or priorities. This disconnect allowed much of the Republican Guard to escape unscathed during the Gulf War and will allow future enemies to work the same seam between deep fires and ground maneuver. As weapons

increase in range and effectiveness, the tendency is for even greater centralization of fires at levels much removed from the direct support of ground maneuver.<sup>11</sup> Dispersed tactics demand the exact opposite—increasingly effective fires in close support of lower level maneuver units.

### **Dispersed Tactics**

Precision fires, although not decisive alone, may transform the possibilities for maneuver. Enemy armor concentrations are particularly vulnerable to our long-range sensors and fires. These formations will have to disperse or suffer prohibitive losses from stand-off weapons that outrange them. Our own rapid reaction or forcible entry forces become that more effective. Greater dispersion becomes possible if the enemy cannot mass his forces. Also, we are less vulnerable to detection, the effective footprint of missile delivered sub-munitions and WMD. Finally, there is a greater prospect of winning while fighting outnumbered in the early stages of a forcible entry or rapid reaction operation.

Dispersed maneuver under precision fires allows a force to infiltrate, envelope or turn enemy positions without presenting a target for increasingly long range, accurate and lethal fires. The ability to close with the enemy with organic weapons presents a significant dilemma for an opponent. If he masses to meet this threat he becomes vulnerable to our stand-off weapons and opens up soft spots elsewhere on the extended battlefield. If he fights dispersed, he risks piecemeal defeat. Our training, ground firepower, mobility and C4ISR may give us a comparative advantage in fighting dispersed. In some scenarios, this may be the decisive advantage. That being said, it cannot be ignored that dispersed units are at greater risk of being cut-off, defeated in detail, overwhelmed or bypassed. Dispersed forces must rely on the successful integration of direct fire, indirect and long-range precision weapons in order to be effective and survivable. Long-range precision fires alone do not provide the necessary

responsiveness, massed firepower or target acquisition. Given the pitfalls of precision weapons, it is important to understand the conditions and limits to survivable dispersion before massed precision fires are substituted for massed units.

Relatively light forces can quickly deploy and maneuver using intra and inter theater lift. This nimbleness and dispersion allows a preemptive defense or seizure of key terrain before an enemy can complete an attack or consolidate an anti-access defense. Additionally, centralized depots, ports and airfields become less important with dispersed forces. A light infantry unit's supply requirements may be so low that it can be supplied by intra-theater tilt-rotor lift from a seabase. Therefore, highly vulnerable stockpiles, ports and airfields become less important. Dispersed forces can also be deployed forward, or in the enemy's rear to extend the battlefield and attack enemy vital areas. These dispersed units complement conventional units by infiltrating and collapsing an integrated defense, destroying key targets and spreading out the battlefield—much as the Viet Cong and colonial militia shaped the enemy for their main force units. Dispersed forces also flush targets for long-range fires and destroy targets too small to be seen or engaged by expensive precision weapons.

Direct fire, line of sight (LOS) weapons will improve and become critically important for close-in self-defense. Engagement ranges of less than 2,000 meters in mixed terrain or 50 meters in cities do not provide the stand-off required for precision weapons to overcome massed enemy weapons. Enemy units that rush, leak or infiltrate through our long range sensors and fires could reconcentrate, suppress and then overwhelm dispersed units in a direct fire battle at short engagement ranges. Additionally, units involved in a direct fire fight risk being decisively engaged. They cannot maneuver out of an engagement until it is resolved without outside assistance. Dispersed units that are pinned down lose tactical options and can be forced to fight

on the enemy's terms. Finally, an enemy that is able to close using belt-buckle tactics negates much of our advantage in precision weaponry. Target exposures are too short for long time of flight weapons and are difficult to discriminate on a cluttered battlefield that intermingles friend, foe and casualties with competing heat signatures. A rapid-firing weapon that can quickly achieve direct fire superiority—similar in effect to the Gatling gun that Custer neglected to take with him to Little Big Horn—will help but is not enough. The shock effect of thermobaric weapons—essentially powerful fuel air explosives—is another partial solution.

Organic indirect fires—including precision artillery, mortars and missiles—are thus essential in the absence of perfect effects from long-range precision fires and the risk of close range fire fights. Future weapons such as the enhanced fiber optics guided missile (EFOG-M) with a range of 15 kilometers, the high-mobility, artillery rocket system (HIMARS) with a range of 30 kilometers, precision mortars and long range thermobaric weapons will extend the close battle. Man-in-the-loop and autonomous sensors permit precision engagement at ranges far beyond line-of-sight and with greater resolution than their long-range counterparts. Extended observation allows a unit to disperse in close terrain without masking its fires. Greater precision may result in corresponding decreases in required ammunition. These organic systems also have a much shorter time of flight, and are thus more responsive, than long-range precision fires.

The ability to fight deeper also establishes mutual support between dispersed units. By concentrating organic fires rather than units, a regiment can disperse over 30 kilometers while maintaining mutual support. Improved C4ISR will improve the concentrated effects of dispersed units. The decisive battle can not rely on the Javelin or improved TOW since both are vulnerable to suppression, rapid maneuver and target saturation. Indirect weapons, close air support, sensors, and UAVs are the key to a dispersed battle fought in depth with concentrated fires.

A dispersed fight must therefore be seen as an integrated, combined arms battle that employs long range and organic indirect precision fires to create the conditions for survivability and operational effectiveness. Greater range permits rapid concentrations of fire from dispersed weapons. If combat power is the interaction of not just mass, but the ability to rapidly concentrate over time and space, then indirect fire weapons provide dispersed units their greatest combat power.<sup>12</sup> Fires can concentrate over much greater ranges and much quicker time than maneuver forces. Weapons and sensor precision are a component of mass. Improved precision and sensors permit massed effects without logistics-intensive barrages. The combination of long range and organic indirect fires will prevent an over-reliance on our direct fire capability.

While effective, long-range fires increase combat effectiveness and survivability, they fall short of giving dispersed units real tactical flexibility. For dispersed units to truly threaten the enemy they must be able to achieve a positional advantage over the enemy. Dispersed, but static units, can slow an enemy down but they are incapable of decisive maneuver. Such a force is only useful as a supporting effort that fixes or attrits the enemy in preparation for mobile forces that can attack exposed vulnerabilities. Without mobility, however, these dispersed forces have limited tactical utility. Static units, no matter how much ground they cover dispersed are not a threat if they do not have the mobility to reposition to attack or counter enemy maneuver. The enemy can simply fix, bypass, contain or otherwise ignore them. The original position of advantage when first inserted is rapidly lost as the enemy adapts and counters with greater speed. Immobile, dispersed forces can operate as the ordinary (fixing) forces or fulcrum for the extraordinary (flanking) or decisive forces that can leverage an advantage for a decisive victory.<sup>13</sup> They cannot expect to be decisive on their own.



Increases in mobility permit greater maneuver and mutual ground support. Conceivably, dispersed forces can attack or counterattack an enemy from many directions. Mobile dispersed forces can organically fix and flank enemy units weakened and dispersed by organic indirect and long-range fires. Attacking enemies are caught up in a net of dispersed units that can close to attack their rear, flanks, logistics, lines of communications and command and control.

### **Current Shortcomings of Dispersed Tactics**

Long-range and organic indirect fires must provide two essential functions for dispersed units to be effective. First, they must provide effective counter-battery fire. Light, dispersed forces are particularly vulnerable to enemy long-range fires. In one way, dispersion provides critical protection against improved enemy fires, particularly those incorporating WMD. In another way, however, dispersed units operating outside the range of current counter-battery radars and batteries, are vulnerable. An opponent can mass the effects of widely dispersed mortars, artillery and missiles to suppress, neutralize or destroy key components of the dispersed forces operation. Without effective counter-battery sensors and fires, an opponent can mount a combined arms attack and defeat units piecemeal. At best, dispersed units will lose their ability to maneuver against superior enemy firepower. Unless we can detect, range and kill enemy indirect fire weapons, dispersed forces will have to employ stealth and ever-increasing dispersion. Both stealth and extreme dispersion severely decrease tactical utility and increase vulnerability to enemy ground maneuver. Dispersed tactics are then reduced to mere reconnaissance and target acquisition rather than true maneuver.

Second, long-range and organic indirect fires must prevent enemy units from closing beyond our ability to defeat them in a direct fire battle. Despite the promise of precision, there is great risk in relying completely on distant sensors and fires for tactical protection. Unexpected

enemy adaptations or countermeasures are likely. Dispersed units must be robust enough to meet temporary moments of exposure before other units can support or effective fires brought to bear. Dispersion beyond the battalion level increases risks in continuous day/night operations. Battalions have greater ability to take casualties, maneuver and provide depth to the battlefield. Although scenario dependent and worth experimentation, the battalion-level dispersion minimizes risk to enemy ground maneuver without providing a lucrative target. During the Korean War, battalion perimeters generally held while company perimeters folded as Chinese and North Korean forces used the night and terrain to close under our airpower.

Logistics is another Achilles' heel. Light forces require less logistics but must be resupplied at great distances. Protected logistics depots at sea or other safe areas must be linked to these dispersed forces by intra-theater or tactical lift. Airpower provides the greatest flexibility through precision parachute drops, parafoils or heavy lift tilt rotorcraft.<sup>14</sup> A heavy-lift tilt rotor aircraft with a 30-ton payload is the future tactical enabler for dispersed forces.

Tactical mobility is another critical issue. Lightweight, survivable ground mobility must be developed. The increasing air defense threat must also be countered to permit tilt-rotor and heliborne insertion, resupply, repositioning and extract.<sup>15</sup>

Precision fires are not a substitute for massed suppressive fires so necessary for maneuver or the immediate self-defense afforded by the final protective fires. Despite the cost, stand-off missiles and aviation weapons must be capable of massed suppressive fires. Munitions must be developed to complement the effects of maneuver, direct fire weapons and organic indirect-fire weapons. Missile sub-munitions designed for breaking up infantry and dispersed attacks are required rather than the exclusive inventory of anti-tank weapons. Since dispersed units will operate throughout the battlefield and the distinction between operational and strategic targets is

narrowing, most aircraft should be capable of close air support. Munitions, like napalm and fuel air explosives, are required that can suppress with area rather than point effects. Long-range precision fires developed in isolation of the maneuver battle will be at best sub-optimal and worst expose maneuver units to defeat.

Organic indirect fires are likewise limited by strategic and tactical lift space limitations and the difficulty of resupply. HIMARS and other advanced weapons systems provide a great capability but their munitions are bulky and rapidly expended. The critical reliance on organic indirect fires for dispersion predicts huge ammunition consumption. If firepower is substituting for mass, you are going to need a lot more ammunition. If the botched raid on Mogadishu is any indication, even the direct fire fight will result in extreme ammunition usage as light, isolated units use firepower to make up for mass in a fight for life. Increasing precision is one side of the equation, reducing munition size and weight is another.

Finally, dispersed forces will be tactically limited if they cannot perform the most basic battlefield functions as river and gap crossing, breaching and MOUT.

**Summary.** Despite current limitations, dispersed tactics should be pursued for the potential to complement the strengths and weakness of stand-off weapons and conventional units. Dispersed tactics allow us to close with the most effective combination of direct fire, organic indirect and long-range weapons. Combined arms, infantry battalions can maneuver to bring the best weapons and sensors to bear which, in many cases, may be the infantryman. The supported infantryman, integrated into a combined arms force, can make the necessary discriminations and judgments to destroy an unconventional opponent. Moreover, dispersed tactics may be the only way to "kick in the door" for future forcible entry operations.

## **End Notes**

<sup>1</sup> Richard E. Simpkin, Race to the Swift, (London, U.K.: Brassey's Defense Publishers), p 3.

<sup>2</sup> 1986 Defense Science Board Report

<sup>3</sup> Dr. Meyer talked about the tactical value of below level of enemy's intelligence resolution in various seminars and battle studies.

<sup>4</sup> William G. Stewart, "Interaction of Firepower, Mobility, and Dispersion." Military Review, March 1960, p. 32.

<sup>5</sup> Ibid, p. 28.

<sup>6</sup> Mobility is only one variable in maneuver. Unexpected moves, quick decisions, the ability to take risk, etc... are all factors that permit greater tactical maneuver. Lee's movements prior to Antietam are an illustration of a dispersed force rapidly concentrating to outmaneuver an opponent with like mobility and total battlespace awareness.

<sup>7</sup> Richard P. Hallion, Precision Guided Munitions and the Era of the New Warfare (Fairbome, Australia: Air Power Studies Center), Paper Number 53, p. 1.

<sup>8</sup> Paul K. Davis et al., Effects of Terrain, Maneuver Tactics, and C4ISR on the Effectiveness of Long-Range Precision Fires (Santa Monica, California: RAND), p. 6.

<sup>9</sup> Engagement is one of the four pillars of Joint Vision 2020.

<sup>10</sup> Michael O'Hanlon, Technological Change and the Future of Warfare (Washington, D.C.: Brookings Institution Press), p. 112.

<sup>11</sup> Robert R. Leonhard, "Classical Fire Support vs. Parallel Fires," The Association of the U.S. Army, April 2001, p4.

<sup>12</sup> Richard E. Simpkin, Race to the Swift (London, UK: Brassey's Defence Publishers), p. 22. Simpkin argues that combat strength is a function of momentum, that is mass times velocity.

<sup>13</sup> Sun Tzu writes of cheng and chi, ordinary and extraordinary forces, that when used in combination permit maneuver warfare. Ideally, forces can serve as either cheng and chi and shift rapidly between the two roles for complete tactical flexibility and exploitation of advantage. Similarly, Simpkin sees two components of maneuver: those that are relatively static and serve as the fulcrum and those that are mobile that serve as the fulcrum.

<sup>14</sup> Historically, the DC-8 support to Slim's Burma campaign and the Marines at the Choisin Reservoir, and the C-130 support at Khe Sanh prove the utility of a durable, short take off and landing aircraft that can land on primitive airfields to supply an army.

<sup>15</sup> The OpFor during the USMC's Hunter Warrior Advanced Warfighting Experiment effectively countered hunter-killer teams by targeting their assault support aircraft.

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